Paper No. 13

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte TOMMY L. JONES

Appeal No. 97-1114
Application No. 08/222,643[1]

ON BRIEF

Before STAAB, NASE, and CRAWFORD, Administrative Patent Judges.

NASE, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 through 17, which are all of the claims pending in this application. The appellant states (brief, p. 2) that the "claims appealed are claims 6 through 15 and 17." Accordingly, the appeal as to claims 1 through 5 and 16 is dismissed.

[1] Application for patent filed March 31, 1994.

We REVERSE and enter a new rejection pursuant to 37 CFR § 1.196(b).

BACKGROUND

The appellant's invention relates to a vertical takeoff and landing mass transit system. A copy of claims 6 through 15 and 17 appear in the appendix to the appellant's brief.

The prior art references of record relied upon by the examiner as evidence of anticipation under 35 U.S.C. § 102(b) and obviousness under 35 U.S.C. § 103 are:

Callison	1,818,841	Aug. 11, 1931
Roth	1,921,043	Aug. 8, 1933

Additional references of record relied on by this Board are:[2]

Gilbert	3,605,935	Sep. 20, 1971
Kappus	3,618,875	Nov. 9, 1971

Claim 6 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Roth.

Claims 13, 14, 15 and 17 stand rejected under 35 U.S.C. § 103 as being unpatentable over Roth.

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[2] These references were cited by the examiner in Paper No. 3 and copies are of record in the application file.

Claims 7 through 12 stand rejected under 35 U.S.C. § 103 as being unpatentable over Roth in view of Callison.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellant regarding the §§ 102 and 103 rejections, we make reference to the examiner's answer (Paper No. 12, mailed October 17, 1996) for the examiner's complete reasoning in support of the rejections, and to the appellant's brief (Paper No. 11, filed July 26, 1996) for the appellant's arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by the appellant and the examiner. As a consequence of our review, we make the determinations which follow.

35 U.S.C. § 102(b) rejection of claim 6

We do not sustain the rejection of claim 6 under 35 U.S.C. § 102(b) as being anticipated by Roth.

To support a rejection of a claim under 35 U.S.C. § 102(b), it must be shown that each element of the claim is found, either expressly described or under principles of inherency, in a single prior art reference. See Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984).

Claim 6 recites a mass transit system comprising, inter alia, (1) a plurality of routes, (2) a plurality of terminals located at points of intersection of the plurality of routes, (3) the plurality of routes extending from an urban area to a suburban area, and (4) a vertical takeoff and landing craft to travel between terminals along the plurality of routes.

As correctly pointed out by the appellant (brief, p. 9), "Roth discloses an airplane which may be operated to rise vertically in the air, travel horizontally and descend in the same manner."

We agree with the appellant's argument (brief, pp. 7-11) that Roth does not disclose several of the elements recited in claim 6. Specifically, Roth does not disclose (1) a plurality of

routes, (2) a plurality of terminals located at points of intersection of the plurality of routes or (3) the plurality of routes extending from an urban area to a suburban area. Since all the limitations of claim 6 are not found, either expressly described or under principles of inherency, in Roth, the examiner's rejection under 35 U.S.C. § 102(b) cannot be sustained.

35 U.S.C. § 103 rejection of claims 13, 14 and 15

We do not sustain the rejection of dependent claims 13, 14 and 15 under 35 U.S.C. § 103 as being unpatentable over Roth.

With respect to claims 13, 14 and 15, each of which depends directly from independent claim 6, the examiner determined (answer, p. 4) that

> [i]t would have been obvious to one of ordinary skill in the art at the time of the invention was made to fly the craft of Roth at any desired altitude as is the custom of pilots in certain areas and is also deemed an obvious method of operation as well as flying in any desired direction.

Even if Roth was modified as set forth above by the examiner, the modified device of Roth would still lack the elements, noted supra with respect to parent claim 6.

Accordingly, the examiner's rejection of claims 13, 14 and 15 under 35 U.S.C. § 103 cannot be sustained.

35 U.S.C. § 103 rejection of claim 17

We do not sustain the rejection of claim 17 under 35 U.S.C. § 103 as being unpatentable over Roth.

Claim 17 recites an urban-suburban mass transit method comprising, inter alia, (1) loading passengers onto a first craft at one terminal, (2) flying the first craft to another terminal, (3) contemporaneously loading passengers onto a second craft at a terminal, (4) flying the second craft to another terminal, (5) contemporaneously loading passengers onto a third craft at a terminal, and (6) flying the third craft to another terminal.

With respect to independent method claim 17, the examiner made the same determination as set forth above with respect to claims 13, 14 and 15.

In our opinion, the device of Roth as modified as set forth by the examiner would still lack several of the steps recited in claim 17. In that regard, we agree with the appellant's argument (brief, p. 23) that the applied prior art would not have suggested the contemporaneously loading passengers onto three different crafts as recited in claim 17. Accordingly, the

examiner's rejection of claim 17 under 35 U.S.C. § 103 cannot be sustained.

35 U.S.C. § 103 rejection of claims 7 through 12

We do not sustain the rejection of claims 7 through 12 under 35 U.S.C. § 103 as being unpatentable over Roth in view of Callison.

With respect to claims 7 through 12, each of which depends directly or indirectly from independent claim 6, the examiner determined (answer, p. 5) that

> [i]t would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide the aircraft of Roth with pod and landing field elevators as taught by Callison since it would make for more efficient handling of passengers and freight at the airport.

Once again, even if Roth was modified as set forth above by the examiner, the modified device of Roth would still lack the elements, noted supra with respect to parent claim 6. Accordingly, the examiner's rejection of claims 7 through 12 under 35 U.S.C. § 103 cannot be sustained.

New grounds of rejection

Under the provisions of 37 CFR § 1.196(b), we enter the following new grounds of rejection.

Claims 6, 13 and 15 are rejected under 35 U.S.C. § 103 as being unpatentable over Kappus.

Kappus pertains to V/STOL aircraft (i.e., aircraft "capable of taking off and landing either vertically or with a short runway distance" (column 1, lines 4-5)). Kappus' specification, at column 1, line 7 through column 2, line 5, contains the following passages pertinent to appellant's claimed mass transit system:

> Commercial air transportation has brought impressive benefits to the traveler, permitting him to cross continents and oceans safely in a matter of hours in comfortable aircraft propelled by gas turbine engines of the turbofan and turbojet types. Continuing progress for medium- and long-distance trips is already well advanced with the scheduled introduction into service of jumbo jet aircraft capable of carrying several hundred travelers and supersonic aircraft capable of crossing the ocean in less than 3 hours. Aircraft operators have also benefited in these advances by reason of decreased direct operating costs and increased utilization times.
>
> Shorter distance air travel has noticeably lagged behind the advances of medium- and long-distance travel. There are several reasons for this situation. One is the large proportion of time required for land travel to and from airports which are usually located many miles from an urban center. Another is the long time spent

nonproductively by airliners maneuvering to and from large jet ports. Yet another reason and a problem generally applicable to all air transportation is overcrowding of the air space at airports and overburdening of the approach and runway facilities available.

It has long been recognized that these problems could be alleviated, if not fully solved, by aircraft capable of operating from small urban airports which could be dispersed closer to or within urban centers. To some extent rotating wing aircraft, e.g., helicopters, provide this capability, and today there art many helicopters in operation from heliports of extremely small area, many of which are located on the tops of buildings in a crowded urban center. However, helicopters have limitations as to the distance and speeds at which they are effective from a time of travel, as well as a cost standpoint. The range limit of effectiveness for today's helicopters is 75 miles and the expectable ultimate limit is in the order of 150 miles.

The really significant lack of progress has been in aircraft which are truly effective, from a cost and time standpoint, in operating over travel routes of 200-400 miles with the flexibility to perform adequately over shorter or longer distances. . . .

Generally speaking, . . . [fixed-wing V/STOL aircraft] have been capable of attaining the obvious advantage of operating into and out of airports requiring a very small area and capable of being located in close proximity to urban centers. They also have the further advantage over helicopters in that they can attain reasonably high flight speeds and altitudes for route distances in the 200-400 mile range. Such fixed-wing aircraft provide the potential solution to air transportation problems of congestion, both in conventional airports and in land transportation to and from such conventional airports. Downtown airports may be scattered so that there is not a concentration of land traffic in any one given access area. Similarly, air congestion at conventional airports may be decreased since several different areas of a large airport could be set aside for simultaneous landing and takeoff for V/STOL aircraft in the area of

> a conventional runway. The much slower approach speeds could permit many more aircraft to safely occupy the air space for multiple takeoffs and landings.

After the scope and content of the prior art are determined, the differences between the prior art and the claims at issue are to be ascertained. Graham v. John Deere Co., 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966).

Based on our analysis and review of Kappus and claim 6, it is our opinion that the only difference is the limitation that there is a plurality of terminals located at points of intersection of the plurality of routes which extend from an urban area to a suburban area to form a network.

The test for obviousness is what the teachings of the applied prior art would have suggested to one of ordinary skill in the art. See In re Young, 927 F.2d 588, 591, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991) and In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). Moreover, in evaluating such prior art it is proper to take into account not only the specific teachings of the prior art but also the inferences which one skilled in the art would reasonably be expected to draw therefrom. In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344

(CCPA 1968). Additionally, we observe that an artisan must be presumed to know something about the art apart from what the applied prior art discloses (see In re Jacoby, 309 F.2d 513, 516, 135 USPQ 317, 319 (CCPA 1962)) and the conclusion of obviousness may be made from "common knowledge and common sense" of the person of ordinary skill in the art (see In re Bozek, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969)). Moreover, skill is presumed on the part of those practicing in the art. See In re Sovish, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir. 1985).

It is our opinion that it would have been obvious to one of ordinary skill in the art at the time of the appellant's invention to have provided a plurality of terminals at the points of intersection of the plurality of routes suggested by Kappus which extend from an urban area to a suburban area to form a network since providing terminals at points of intersection of routes is well known.

With regard to claim 13, it is our opinion that it would have been obvious to one of ordinary skill in the art at the time of the appellant's invention that the plurality of routes

suggested by Kappus would have been located above a plurality of existing roadways since air routes over existing roadways is well known.

With regard to claim 15, it is our opinion that it would have been obvious to one of ordinary skill in the art at the time of the appellant's invention to have further extended the plurality of routes suggested by Kappus to a rural area in view of Kappus' teaching that the routes can extend 200-400 miles and the well known provision of having small airports in rural areas.

Claims 8 through 12 are rejected under 35 U.S.C. § 103 as being unpatentable over Kappus as applied to claim 6 above, and further in view of Gilbert.

Gilbert pertains to an air surface rapid transit vehicle in which a passenger- or cargo-carrying pod is detachably connected to a helicopter or other VTOL aircraft for high-speed transport between metropolitan and suburban depots, and is then transferred to and locked onto a self-propelled power unit of one type or another, for transport on the ground. Gilbert's specification, at column 1, line 41 through column 2, line 10, contains the

following passages pertinent to appellant's claimed mass transit system:

> This invention pertains to a new and improved system of rapid transit, particularly for transporting passengers over relatively long distances, such as between metropolitan and suburban centers, or between cities that are spaced far enough apart to constitute a relatively long-distance trip by bus, but not quite far enough apart to justify airplane travel.
>
> As metropolitan areas spread out, and suburban areas move farther away from their centers, highway congestion becomes increasingly more of a problem, and bus travel during the rush hours is slowed down to the point where it ceases to be an attractive form of transportation. At the same time, the proliferation of automobiles, most of which carry only one or two passengers, produces more and more air pollution, which is rapidly approaching a critical stage.
>
> The present invention contemplates a system of rapid transit, wherein passengers may be picked up by a motor-driven wheeled vehicle, such as a bus or monorail (or other vehicle running on tracks) which is driven around a predetermined route and then taken to an airport or helicopter port, where the passenger-carrying pod is detached from its wheeled vehicle and detachably connected to the underside of a helicopter, or other VTOL aircraft. The pod is then carried at high speed by the helicopter from the suburban area to the metropolitan center, above the traffic congestion of surface highways. At the metropolitan center depot, the helicopter lands, and in one aspect of the invention, transfers its passenger-carrying pod onto a waiting automotive-type wheeled chassis. When the passenger carrying pod is thus mounted on the chassis, driving controls inside the pod are connected to their respective operating mechanisms on the chassis, and these are manipulated by the operator, who drives the vehicle away, to make the circuit of the predetermined bus route, delivering the incoming passengers and picking up other passengers for the return trip. Since the passenger pod would carry up to 40 (or more) passengers on each trip, this would eliminate from 30 to 40 passenger cars from the highways, with a

> corresponding reduction of highway congestion, air pollution, and parking problems.

With regard to claims 8 through 10, it is our opinion that it would have been obvious to one of ordinary skill in the art at the time of the appellant's invention to have modified Kappus' VTOL aircraft to include a detachable and replaceable passenger- or cargo-carrying pod as suggested and taught by Gilbert to efficiently transport passengers or cargo.

With regard to claims 11 and 12, it is our opinion that it would have been further obvious to one of ordinary skill in the art at the time of the appellant's invention to have used the pod to transport either medical or military passengers or cargo.

SECONDARY CONSIDERATIONS

Having arrived at the conclusion that the teachings of the newly applied prior art are sufficient to establish a prima facie case of obviousness, we recognize that the evidence of nonobviousness submitted by the appellant must be considered en route to a determination of obviousness/nonobviousness under 35 U.S.C. § 103. See Stratoflex Inc. v. Aeroquip Corp., 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983). Accordingly, we consider

anew the issue of obviousness under 35 U.S.C. § 103, carefully evaluating therewith the objective evidence of nonobviousness supplied by the appellant. See In re Oetiker, 977 F.2d 1443, 1445-46, 24 USPQ2d 1443, 1444-45 (Fed. Cir. 1992); In re Piasecki, 745 F.2d 1468, 223 USPQ 785 (Fed. Cir. 1984).

In this case the appellant has submitted rebuttal evidence in the form of two declarations[3] under 37 CFR § 1.132 to establish nonobviousness of the claimed invention by attempting to establish long-standing problems in the mass transit industry and the prior failure of others to resolve these problems.

We have reviewed the declarations and the exhibits attached thereto but find insufficient evidence to establish that an art recognized problem existed in the art for a long period of time without solution. It is our determination that solutions to the alleged mass transit problem already exist as set forth in the newly applied prior art. Furthermore, evidence of nonobviousness, although being a factor that certainly must be considered, is not necessarily controlling. See Newell

[3] Declarations of Tommy Lee Jones, filed October 16, 1995 and April 26, 1996 (see Paper Nos. 4 and 6).

Companies, Inc. v. Kenney Manufacturing Co., 864 F.2d 757, 768, 9 USPQ2d 1417, 1426 (Fed. Cir. 1988).

In view of the foregoing, we are satisfied that when all the evidence is considered, the evidence of nonobviousness fails to outweigh the evidence of obviousness as in Richardson-Vicks Inc. v. Upjohn Co., 122 F.3d 1476, 44 USPQ2d 1181 (Fed. Cir. 1997) and EWP Corp. v. Reliance Universal, Inc., 755 F.2d 898, 225 USPQ 20 (Fed. Cir. 1985).

CONCLUSION

To summarize, the decision of the examiner to reject claim 6 under 35 U.S.C. § 102(b) is reversed; the decision of the examiner to reject claims 7 through 15 and 17 under 35 U.S.C. § 103 is reversed; and a new rejection of claims 6, 8 through 13 and 15 under 35 U.S.C. § 103 has been added pursuant to provisions of 37 CFR § 1.196(b).

This decision contains new grounds of rejection pursuant to 37 CFR § 1.196(b)(amended effective Dec. 1, 1997, by final rule notice, 62 Fed. Reg. 53131, 53197 (Oct. 10, 1997), 1203 Off. Gaz. Pat. Office 63, 122 (Oct. 21, 1997)). 37 CFR § 1.196(b) provides that, "A new ground of rejection shall not be considered final for purposes of judicial review."

37 CFR § 1.196(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new grounds of rejection to avoid termination of proceedings (§ 1.197(c)) as to the rejected claims:

> (1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter

> reconsidered by the examiner, in which event the application will be remanded to the examiner. . . .
>
> (2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

REVERSED; 37 CFR § 1.196(b)

JEFFREY V. NASE Administrative Patent Judge	)
	) BOARD OF PATENT) APPEALS) AND) INTERFERENCES
MURRIEL E. CRAWFORD Administrative Patent Judge	)

STAAB, Administrative Patent Judge, concurring.

I concur with the result reached by my colleagues with respect to the anticipation and obviousness issues raised by the examiner’s rejections. Additionally. I concur with the new rejection of claims 6, 8 through 13 and 15 under 35 U.S.C. § 103 that has been added pursuant to provisions of 37 CFR § 1.196(b). However, I write separately to place on record my belief that the newly applied prior art patent to Kappus also renders unpatentable under 35 U.S.C. § 103 the method of independent claim 17 and the system of dependent claim 14.

Claim 14 depends from claim 6 and adds details concerning the "plurality of routes" called for in the base claim. Specifically, claim 14 calls for first, second, third and fourth routes that ascend vertically from a terminal to an altitude of 400, 600, 800 and 1000 feet, respectively, extend to another terminal, and descend vertically. Appellant's claims do not preclude the "craft" of the claimed "system" from being a conventional helicopter. Ascending vertically from a first location to a given altitude, flying at that altitude to a second location, and descending vertically to a second location is an obvious method of operating a conventional helicopter. Moreover,

I take official notice that it is conventional for air traffic controllers to assign different altitudes to different aircraft in congested airspace in order to avoid mid-air collisions. Given these considerations, and the fact that conventional helicopters are quite capable of operating efficiently at the relatively low altitudes of 400, 600, 800 and 1000 feet called for in claim 14, I believe it would have been obvious to one of ordinary skill in the art to provide the "system" suggested by Kappus with helicopters operating over a plurality of commuting routes of the type called for in claim 14, thus rendering claim 14 obvious under 35 U.S.C. § 103.

As to the method of claim 17, the remarks of the previous paragraph concerning the obvious method of operating a conventional helicopter and the taking of official notice of how air traffic controllers assign different altitudes apply. In addition, the claim requirement of "contemporaneously" loading, flying, and unloading passengers utilizing a plurality of aircrafts operating between various terminals is nothing more than what is done every day when commercial airlines operate amongst a plurality of regional airports. Based on these considerations, and the portions of the disclosure of Kappus

noted by the majority, I believe it would have been obvious to one of ordinary skill in the art to operate the system suggested by Kappus in a manner which corresponds to the "mass transit method" of claim 17, thus also rendering claim 17 obvious under 35 U.S.C. § 103.

LAWRENCE J. STAAB) BOARD OF PATENT APPEALS
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APPLICATION NO. 08/222,643

APJ NASE

APJ CRAWFORD

APJ STAAB

DECISION: **REVERSED**

Prepared By: Delores A. Lowe

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